UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,335	05/04/2001	Haim Rochberger	Q61794	6755

7590   12/28/2004

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EXAMINER
CHO, HONG SOL

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-48* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) *13,15-17,26,27,29,33,41 and 46* is/are allowed.

6) ☒ Claim(s) *1-12,14,18-25,28,30-32,34-40,42-45,47 and 48* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>04 May 2001</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>05042001</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Oath/Declaration

1.   Oath/Declaration is missing.

Claim Objections

2.   Claim 28 is objected to because of the following informalities:

Re claim 28, it appears that there is a part of claim limitation missing in line 5.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

4.   Claims 7, 20, and 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 7, 20, and 36 recites the limitation "…data is invariant from packet to packet within a session". It is unclear if the header of data is invariant or the payload of data is invariant.

Claim 28 recites the limitation "said plurality of routers/proxies" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form

the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
patent by another filed in the United States before the invention by the applicant for patent, except that an
international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
subsection of an application filed in the United States only if the international application designated the United
States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 1-12, 18-25, 28, 30-32, 34-40, 42, and 43 are rejected under 35 U.S.C. 102(e) as

being unpatentable over Albert et al (U.S 6735169), hereinafter referred to as Albert.

Re claims 1, 18, 28, and 31, Albert discloses providing a plurality of network services

where several clients, servers, forwarding agents, and service managers (*a load balancer*)

are connected to the network (*a system for distributing a packet received over a network

with a plurality of servers and a load balancer*, figure 2A). Albert discloses a service

manager providing instructions to the forwarding agent detailing where packets for each

load balanced flow are to be forwarded by using fixed affinities (*a load balancer for

selecting one of the plurality of servers according to a calculation*, column 8, lines 41-

45). The source and destination addresses, the source and destination port numbers and

protocol identification is referred to as an affinity key (column 8, lines 8-11).

Re claim 2, Albert discloses forwarding packets to a destination based on a protocol

identification (*each packet from a particular session is sent to the same server*, column 7,

lines 50-52).

Re claims 3, 4, and 30, Albert discloses a service manager selecting a destination without

a feedback from the plurality of servers (column 8, lines 41-45).

Re claim 5, Albert discloses a service manager without a session table.

Re claims 6, 8-12, 19, 21-25, and 32, Albert discloses selecting a destination node (*a server*) based on the source and destination addresses, the source and destination port numbers and protocol identification of the packet (column 8, lines 8-12).

Re claims 7 and 20, as best understood, it is inherent that Albert discloses a data being forwarded to the same destination for a given TCP connection (*data is invariant from packet to packet within a session*, column 13, lines 29-34).

Re claims 34 and 42, Albert discloses providing a plurality of forwarding agents and service managers (*router/proxies*) are connected to the network (*a system for distributing a packet received over a network with a plurality of servers*, figure 4). Albert discloses a service manager providing instructions to the forwarding agent at the router that allow the router to process the packets (*each of routers/proxies receiving the packet and performing a calculation for selecting one of routers/proxies for handling the packet*, column 9, lines 48-57).

Re claims 35, 37-40, and 43, Albert discloses selecting a destination node (*a server*) based on the source and destination addresses, the source and destination port numbers and protocol identification of the packet (column 8, lines 8-12).

Re claim 36, as best understood, it is inherent that Albert discloses a data being forwarded to the same destination for a given TCP connection (*data is invariant from packet to packet within a session*, column 13, lines 29-34).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

8.   Claims 14, 44, 45, 47, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Albert.

Re claim 14, Albert does not disclose redundant servers in a system. However, it would

have been obvious to one having ordinary skill in the art at the time the invention was

made to have redundant servers in Albert to provide backup service in case a primary

server fails.

Re claims 44 and 45, Albert does not disclose a server performing a calculation for

selecting one of the routers/proxies to handle the packet. However, it would have been

obvious to one having ordinary skill in the art at the time the invention was made to

implement the process of selecting a server in reverse direction so that a server instead a

router performs a selection process based on the source and destination addresses, the

source and destination port numbers and protocol identification of a packet

Re claims 47 and 48, Albert discloses providing a plurality of forwarding agents and

service managers (*router/proxies*) are connected to the network (*a system for distributing

a packet received over a network with a plurality of servers*, figure 4). Albert discloses a

service manager providing instructions to the forwarding agent at the router that allow the

router to process the packets (*each of routers/proxies receiving the packet and*

performing a calculation for selecting one of routers/proxies for handling the packet,

column 9, lines 48-57).

Allowable Subject Matter

9.   Claims 13, 15-17, 26, 27, 29, 33, 41, and 46 are objected to as being dependent upon a

rejected base claim, but would be allowable if rewritten in independent form including all

of the limitations of the base claim and any intervening claims.

10.   Claims 13, 26, 29, 33, 41, and 46 are allowable over the prior art of record since the cited

references taken individually or in combination fails to particularly disclose selecting one

of the plurality of servers or routers according to a calculation based on the formula,

((SRC_IP_ADDR + DEST_IP_ADDR + DEST_PORT) % N). It is noted that the closest

prior art of record, Albert shows a method of selecting a server or a router using the

source and destination addresses and the source and destination port numbers of the

packet. However, Albert fails to suggest selecting a server according to the above

formula as required by the claimed invention.

Claims 17 and 27 are allowable over the prior art of record since the cited references

taken individually or in combination fails to particularly disclose selecting one of the

plurality of servers according to a calculation based on the formula, ((SRC_IP_ADDR +

SRC_PORT + DEST_IP_ADDR + DEST_PORT + PROTOCOL) % N). It is noted that

the closest prior art of record, Albert shows a method of selecting a server using the

source and destination addresses, the source and destination port numbers and protocol

identification of the packet. However, Albert fails to suggest selecting a server according

to the above formula as required by the claimed invention.

Conclusion

11.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

- US Patent (6745243) to Squire et al. discloses network caching and load balancing

- US Patent (6128279) to O'Neil et al. discloses balancing loads among network
  servers

- US Patent (6748437) to Mankude et al. discloses creating forwarding lists for cluster
  networking

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hong Cho whose telephone number is 571-272-3087.

The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-3088.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Hong Cho
Patent Examiner
12-08-2004

RICKY NGO
PRIMARY EXAMINER